Remark

Applicant respectfully requests reconsideration of this application as amended. Claim 20 has been amended. Therefore, claims 1-13 and 15-20 are present for examination.

35 U.S.C. §102 Rejection,

Nonoshita et al.

Nonoshita et al., U.S. Patent No. 5,905,821 ("Nonoshita"). As understood by the undersigned, Nonoshita discloses a compressing/expanding circuit for compressing and expanding image data by a JBIG (Joint Bi-Level Image Group) method. An image data from an input device is stored in an image memory (FIG. 2, 2) and then compressed and encoded in a multistage manner. A compression/expansion circuit reads the image data from the image memory 2. A controller (FIG. 1, 57) in a compression/expansion DMAC 21 (direct memory access controller) reads the image data in the image memory 2 into a data buffer 52 of the DMAC. Image data is read line by line from the data buffer 52 into a buffer A 70 of a JBIG (Joint Bi-Level Image Group) circuit (FIG. 3, 20). Subsequently, data in buffer A 70 is read out in a resolution that is lower by one rank into a buffer B 71.

To form compressed image data (image data of a low resolution), a reduction device 74 in the JBIG circuit extracts corresponding image data from buffer A 70 and buffer B 71, and supplies the compressed image data to a buffer

C 72. A decoder 75 in the JBIG circuit extracts the image data from corresponding image data of buffer A 70 and buffer B 71 to form encoded data. Buffer D 73 holds encoded data formed by the decoder.

Independent Claim 18

The Examiner has rejected claim 18 under 35 U.S.C. §102(e) as being anticipated by Nonoshita et al. (U.S. Patent No. 5,905,821). The Applicant respectfully traverses the Examiner's rejection for at least the following reasons.

First, Nonoshita, at the least, does not disclose:

compression circuitry coupled to the encoder for producing compressed data *based upon a previously stored transmit reference and the encoded real-time information*,

as required by claim 18. The Examiner directs the Applicant's attention to reference numeral 8 of FIG. 2, FIG. 21, and columns 1, and 3-6, which all show compression circuitry that uses two references to form compressed data image. These portions of Nonoshita further show that Nonoshita uses different resolutions of the *same image* (col. 6, lines 5-10) to form compressed data image. In other words, Nonoshita does not disclose a previously stored transmit reference and encoded real-time information referring to *different images*.

The Applicant's invention of claim 18, however, is distinguishable from Nonoshita in that the compression circuitry of claim 18 uses *two different images* to form compressed image data. This is evident in the language of claim 18 (*previously stored* transmit reference vs. *encoded real-time* information).

Secondly, Nonoshita, at the least, does not disclose:

a plurality of output buffers coupled to the compression circuitry for storing the

compressed data,

as required by claim 18. The Examiner has pointed out that Nonoshita discloses

a plurality of buffers at reference numeral 52 of FIG. 1 and reference numerals

70-73 of FIG. 4. The Applicant respectfully points out that reference numeral 52

of FIG. 1 is a *single buffer* for holding *uncompressed data.* As described at

column 6, lines 48-51, image data from the image buffer is transferred to the

data buffer 52. It is subsequent to this that the image data gets compressed in

multiple stages (see column 6, line 50 to column 7, lines 1-28).

Furthermore, while reference numerals 70-73 are multiple buffers, they do

not store *the* compressed data, i.e., the antecedent basis for *the* compressed

data being that it is based upon a previously stored transmit reference and the

encoded real-time information. In Nonoshita, the plurality of buffers are used to

compress data in stages as described above. (See also column 5, lines 37-67 to

column 6, lines 1-20.)

Thirdly, Nonoshita, at the least, does not disclose:

a network interface coupled to the plurality of output buffers, the network interface

transmitting compressed data from a selected output buffer of the plurality of

output buffers, the compressed data from the selected output buffer when used

in conjunction with the previously stored transmit reference approximating a

next frame expected by a receiving apparatus.

as required by claim 18. While the Examiner directs the Applicant's attention to

reference numeral 7 of FIG. 2, the Applicant respectfully points out that

reference numeral 7 of FIG. 2 does not transmit compressed data from one of a

plurality of output buffers, as required by the Applicant's invention of claim 18.

In Nonoshita, the LAN interface 7 merely "executes data transfer between the

LAN I/F 7 and another image processing apparatus connected to a LAN 6",

column 3 at lines 44-46.

In the Applicant's invention of claim 18, however, compressed data that is

transmitted by the network interface is used to approximate a next frame when

used in conjunction with the previously stored transmit reference.

Since Nonoshita does not disclose all the elements of the Applicant's

invention of claim 18, for at least these reasons discussed above, the Applicant

respectfully requests that the Examiner withdraw his §102(e) rejection to claim

18 in view of Nonoshita.

35 U.S.C. §103 Rejections

Nonoshita et al. in view of Barberis et al.

The Examiner has rejected claims 2-8, 11, 15, 19, and 20 under 35 U.S.C.

§103(a) as being unpatentable over Nonoshita et al. (U.S. Patent No. 5,905,821)

and in further view of Barberis et al. (U.S. Patent No. 4,320,500).

To establish a prima facie case of obviousness of a claimed invention,

three basic criteria must be met. First, there must be some suggestion or

motivation, either in the references themselves or in the knowledge generally

available to one of ordinary skill in the art, to modify the reference or to combine

reference teachings. Second, there must be a reasonable expectation of

success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure. (M.P.E.P. §2143).

Barberis et al., U.S. Patent No. 4,320,500 ("Barberis"). As understood by the undersigned, Barberis discloses a system for routing messages or packets in a packet-switching communication network in accordance with routing data. Routing data is established by algebraically combining incremental delays with respective path delays to obtain total delays.

Independent Claims 2, 4, and 15

The Applicant respectfully traverses the Examiner's §103(a) rejection to claims 2, 4, and 15 in that he has not made out a prima facie case of obviousness. Specifically, the Applicant opines that the Examiner has not, at the least, shown that all claim limitations are taught or suggested by Nonoshita and/or Barberis. As pointed out in the arguments to claim 18, *supra*, Nonoshita does not disclose:

> compression circuitry coupled to the encoder for producing compressed data *based upon a previously stored transmit reference and the encoded real-time information,*
>
> *a plurality of output buffers* coupled to the compression circuitry for storing the compressed data,

where at least one of these elements is required by claims 2, 4, and 15. See arguments presented to claim 18, *supra*.

Since Nonoshita does not teach or suggest the elements of the Applicant's invention of claims 2, 4, and 15, and since Barberis does not teach the elements missing from Nonoshita, Nonoshita and Barberis are not properly combinable to form a §103(a) rejection. As such, the Applicant respectfully requests that the Examiner withdraw his §103(a) rejection to claims 2, 4, and 15 in view of Nonoshita and Barberis.

Dependent Claims 3, 5-8, 11

Claim 3 depends from claim 2, and claims 5-8, and 11 depend from claim 4. Since the Applicant believes that the rejection to claims 2 and 4 have been overcome, and since claims 3, 5-8, and 11 depend, directly or indirectly, from independent claims 2 and 4, and therefore inherit the limitations of those independent claims, as well as add further limitations, the Applicant respectfully requests that the Examiner withdraw his objection to claims 3, 5-8, and 11.

Independent Claims 19 and 20

The Applicant respectfully traverses the Examiner's §103(a) rejection to claims 19 and 20 in that he has not made out a prima facie case of obviousness. Specifically, the Applicant opines that the Examiner has not, at the least, shown that all claim limitations are taught or suggested by Nonoshita and Barberis.

With respect to claim 19, neither Nonoshita nor Barberis discloses, individually or in combination, at the least:

> encoding the data by determining the differences between the data and a transmit reference to produce differential data;
>
> storing the differential data in one of a plurality of output buffers;
>
> selecting one of the plurality of output buffers as a current transmit buffer based upon one or more characteristics of a data communications channel of a network.

As discussed above, in Nonoshita, data is encoded based on two resolutions of the *same image* (column 6, lines 11-15). In the Applicant's invention of claim 19, however, data is encoded based on *two images*: a previously transmitted image and a current image. Furthermore, the encoded data is not differential data. In the Applicant's invention of claim 19, data is specifically encoded by finding the differences between the *two images* to produce differential data.

When the encoded data is stored, it is stored in *one buffer* (i.e., the D buffer 73 of the JBIG circuit, column 6, line 15 "The formed encoded data is supplied to the D buffer"), not in a plurality of buffers, as required by the Applicant's invention of claim 19. Since the encoded data is not differential data, the storing operation of Nonoshita is also different.

Since in Nonoshita, there is only one buffer into which encoded data is stored, Nonoshita also does not teach or suggest *selecting* an output buffer based upon characteristics of a data communications network.

With respect to claim 20, neither Nonoshita nor Barberis, individually or in

combination, discloses, at the least:

> encoding the real-time data by determining the differences between the real-time data
>
> and a transmit reference to produce differential data;
>
> storing the differential data in one of a plurality of output buffers.
>
> selecting one of the plurality of output buffers as a current transmit buffer by
>
> determining whether the differential data in a particular transmit buffer
>
> accommodates the one or more characteristics of the network better than
>
> differential data in at least another buffer of the plurality of output buffers.

For the reasons discussed above in claim 19, these elements are not taught or suggested by Nonoshita or Barberis, individually or in combination.

Since Nonoshita does not teach or suggest the elements of the Applicant's invention of claims 19 and 20, and since Barberis does not teach the elements missing from Nonoshita, Nonoshita and Barberis are not properly combinable to form a §103 rejection. As such, the Applicant respectfully requests that the Examiner withdraw his §103(a) rejection to claims 19 and 20 in view of Nonoshita and Barberis.

Nonoshita et al. in view of Barberis et al. and Jeong

The Examiner has rejected claims 12, 13, and 16 under 35 U.S.C. §103(a) as being unpatentable over Nonoshita et al. and Barberis et al. and in further view of Jeong (U.S. Patent No. 5,497,153).

Jeong, U.S. Patent No. 5,497,153 ("Jeong"). As understood by the undersigned, Jeong discloses variable length encoding and decoding by utilizing an optimized scanning pattern of block data to improve data compression.

<u>Dependent Claims 12, 13, and 16</u>

Claims 12 and 13 depend from claim 4, and claim 16 depends from claim 15. Since the Applicant believes that the rejection to claims 4 and 15 have been overcome, *supra*, and since claims 12, 13, and 16 depend, directly or indirectly, from independent claims 4 and 15, and therefore inherit the limitations of those independent claims, as well as add further limitations; and since Jeong does not teach or suggest those elements that are missing from Nonoshita and Barberis, the Applicant respectfully requests that the Examiner withdraw his objection to claims 12, 13, and 16.

Nonoshita et al. in view of Barberis et al. and Khalil

The Examiner has rejected claims 9, 10, and 17 under 35 U.S.C. §103(a) as being unpatentable over Nonoshita et al. and Barberis et al. and in further view of Khalil (U.S. Patent No. 5,343,465).

Khalil, U.S. Patent No. 5,343,465 ("Khalil"). As understood by the undersigned, Khalil discloses a method for measuring and analyzing the burstiness of network traffic based on the ratio of packet interarrival times.

Dependent Claims 9, 10, and 17

Claims 9 and 10 depend from claim 4, and claim 17 depends from claim 15. Since the Applicant believes that the rejection to claims 4 and 15 have been overcome, *supra*, and since claims 9, 10, and 17 depend, directly or indirectly, from independent claims 4 and 15, and therefore inherit the limitations of those independent claims, as well as add further limitations; and since Khalil does not teach or suggest those elements that are missing from Nonoshita and Barberis, the Applicant respectfully requests that the Examiner withdraw his objection to claims 9, 10, and 17.

Conclusion

Applicant respectfully submits that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Request for an Extension of Time

The Applicant respectfully petitions for an extension of time to respond to

the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be

necessary. Please charge our Deposit Account No. 02-2666 to cover the

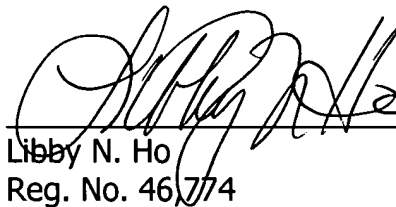necessary fee under 37 C.F.R. § 1.17 for such an extension.

Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: <u>January 2, 2001</u>

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